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ABSTRACT

This study attempted to determine the effectiveness of using elderly adults as resources in teaching historical concepts to young children and in helping them develop an appreciation of their heritage. Subjects were 47 preschool children, 3 to 5 years old, who attended a university child development laboratory program. The Historical Artifacts Test (HAT), an instrument developed to measure children's knowledge of historical artifacts, was administered as a pre-test to all the children. An 8-week, experience-based pioneer history unit was used with children in Group I and Group II. Group I children received instruction from elderly resource teachers and the investigator, Group II children from the investigator only. A control group received no history instruction. Upon completion of the history instruction, subjects were retested on the HAT. Results indicated that: (1) preschoolers could learn some concepts of pioneer history and (2) children taught by elderly resource people learned more about pioneer artifacts than children taught by the investigator alone. Data from these tests were analyzed for group, age, and sex differences, and for any relationship among the variables. Appendices include the HAT and forms used to evaluate it. (Author/SB)

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An Intergenerational Study: Living History With Young Children

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ABSTRACT

Title of Study: An Intergenerational Study: Living History with Young Children

Scope and Method: The purpose of this study was to determine the effectiveness of using aging adults as resource teachers to teach history concepts and historical heritage to preschool children. The subjects who participated in this study were 47 preschool children, ranging from three to five years of age, who were enrolled in the Oklahoma State University Child Development Laboratories. The Historical Artifacts Test, an instrument developed to measure children's knowledge of historical artifacts, was administered to the children in each group prior to eight weeks of history instruction. Group I received instruction from elderly resource teachers and the investigator, Group II received instruction from the investigator only, and the Control Group received no history instruction. Upon completion of the history instruction, the subjects were re-tested on the HAT. The data from these tests were analyzed for group, age, and sex differences for relationships among variables.

Findings and Conclusions: (1) The HAT was established as a reliable instrument for testing three-, four-, and five-year-old children's concepts of historical artifacts. (2) There was a significant difference among the HAT scores of subjects in Group I, Group II, and the Control Group, with Group I scoring highest. (3) There was a difference among the age groups, with the three-year-old children scoring significantly higher on the HAT. (4) There was a significant difference between the males and females, with the males scoring highest on the HAT. (5) The unit which was developed to implement the study was effective for use with the preschool children in the study.

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CHAPTER I

INTRODUCTION AND JUSTIFICATION

No event since the birth of the American nation 200 years ago, has developed a greater awareness of history and heritage than the current bicentennial project. The experiences which have been developed to celebrate this event offer a multitude of social studies learning opportunities for people of all ages. Young children intercept historical information daily from the media, television, radio, books. They need to know how to organize and classify these precepts so that the information may be useful to them. It would be very impractical to shelter children from these common influences, and teachers need to discover ways to make history meaningful for young children.

Spodek (1965) points out that schools have always had the important responsibility of transmitting aspects of the culture to the youngest generation who can and ought to be made aware of their cultural heritage. Every region in the United States has accumulated a vast array of cultural heritage and it is the school's concern to provide the best means of relaying this information to future citizens.

History for Young Children

A logical place to begin a foundation for understanding culture, heritage, and history is in early childhood programs. It has been generally agreed that young children cannot grasp history in its chronological sense, but there is growing acceptance that young children can begin to develop an understanding of the "structure" of history through age-appropriate instruction. The essential learning involved for young children relates to the concept of change, as good and bad, as inevitable and continual. Children need to see that the study of history, their heritage, involves the interpretation of change (Weaver, 1965; Wann, Dorn, and Liddle, 1962; Robison and Spodek, 1965).

History is a valid part of the curriculum not only as a tool to be used in interpreting what has happened and what the future may bring, but also as a means of developing attitudes. Wesley and Cartwright (1968) have indicated that attitudes are among the most important outcomes to be desired from history. Children begin developing attitudes very early in life, and knowledge which contributes positively to this process is important. Children can gain positive attitudes about themselves by learning of the contributions their ancestors have made to history. Michaelis (1972) states that a child's view of himself is especially important and through participation in the social studies, a child can be helped to develop more self-understanding, which in turn contributes to a wholesome self-concept and acceptance of others.

Most of the research concerning the development of history concepts was conducted over 20 years ago. Many of the studies concluded

that since children at certain age levels did not understand some concepts, instruction about them should be deferred until the children had matured sufficiently to profit from teaching. A deferrment theory developed, substantiated by studies of misconception and of the growth of concepts, which influenced curriculum development to a considerable extent. Davis (1959) concluded that it is noteworthy to observe that little experimental evidence has been presented to bolster this theory of delayed teaching.

It is necessary to discover what concepts children can develop when they are guided into rich and meaningful experiences rather than determining what misconceptions children possess. Any research concerned with change must take into account the world in which the children live today. Children are constantly collecting information from broadened personal experiences, mass media, particularly television, and extensive travel. Teachers can choose to ignore this information or try to find some fruitful ways to help young children overcome confusion and begin to clarify the meaning and relationships which they will eventually have to grasp (Robison and Spodek, 1965; Wann, Dorn, and Liddle, 1962; Weaver, 1965; Davis, 1959; Michaelis, 1972; and Fraser, 1965).

In introducing historical concepts to young children, the emphasis must be on those aspects with which youngsters can identify; customs, food, shelter, schools, recreation, and transportation (Weaver, 1965). It is also important to recognize that young children learn through active, first-hand experiences and since it is impossible to recreate the past, it is only possible to study evidence of the past through inanimate artifacts and spoken or written descriptions by witnesses.

Elderly People as Historical Resource Teachers

The elderly people of communities are a generally untapped source of excellent historical information (Wesley and Cartwright, 1968; Lord, 1967; Wann, Dorn, and Liddle, 1962; and Robison and Spodek, 1965). Children often ask their parents and grandparents for stories of their childhood days and are intensely interested in these stories which often have much historical interest, reports Robison and Spodek (1965). According to Wesley and Cartwright (1968, p. 197):

> . . . a pupil can frequently gain a time sense and an added perspective by learning from fathers, grandfathers or other older people. He will secure a greater sense of the reality of the World Wars, the coming of sound films, or any other event if the older person can talk about it as a personal experience. The child thus touches the past vicariously.

Using the aged as resources in teaching historical concepts to young children and in helping them develop an appreciation of their heritage may be an effective way to bring children and aging adults into close contact. The use of grandparents can be an excellent resource for schools for young children as well as providing an opportunity for children to acquire perceptions of the aged and the aging process. Since grandparents often live far from their grandchildren, children do not have the opportunity to witness the continuous cycles of life.

Margaret Mead (1973) has suggested that one way to provide continuity in young children's lives is to combine day care centers with centers for elderly people. The idea is that even though elderly people are not strong enough to do all of the work in handling young children, they could sit, and listen, and talk and provide continuity for the children. She has said:

> I hope by ten years from now we'll have hundreds of communities in this country where older people can live near young families . . . but the first step . . . is for anyone who is running any kind of young children's set up, to get some older people, bring them in and keep them there. Here is a great resource for anyone else is too busy (1973, p. 329).

Current Grandparent Programs

A number of programs exist at the national, state, and local levels which bring the young and the old of our society together. Several of these programs use the aged as a major community resource to provide children with educational enrichment. In Winnetka, Illinois, older members of PAM (Project for Academic Motivation) meet children in a one-to-one relationship to discuss and experiment, work with small groups or lecture before whole classes (U. S., DHEW, 1971).

Schamber (1972) reported a project in which sixth graders traveled by bus about every three weeks to visit "adopted grandparents" in nursing homes. Schamber says that the boys and girls like to hear about the "olden days" a topic not usually encouraged by those who visit the elderly.

Morgulas (1973) reports on a project which uses six grandmothers and two grandfathers in elementary classrooms. Grandparents read to children, listen to children read, sew, play instruments, tell stories, go on field trips, demonstrate hobbies, and cook. This program was initiated by the school principal who felt that children whose only family contacts were with immediate family members were losing the sense of family tradition.

A study to determine preschool children's ability to acquire meaningful historical concepts from interaction with grandparent age

people is needed because no recent information is available in this area. The benefits from such a program could be important to children, parents, teachers, and aging adults. A study investigating the success and outcomes of such a program would be beneficial.

The Purposes of the Study

The overall purpose of this study was to determine the effectiveness of using aging adults as resources in teaching historical concepts to young children and in helping them develop an appreciation of their heritage. Specific purposes were:

1. To develop an historical artifacts test to determine young children's concepts about early pioneer life;
2. To develop an historical teaching unit containing activities and experiences appropriate for 3 to 5 year old children to increase their awareness of their heritage;
3. To determine the abilities of young children to acquire concepts of an historical nature;
4. To compare the effectiveness of a program using the aged as resource teachers and a program using the investigator only.

Hypotheses

The following hypotheses were examined:

1. There is no significant difference among the subjects by (a) group, (b) age, (c) sex in relation to their knowledge of historical artifacts as indicated by the pre-test scores

on the Historical Artifacts Test.

2. There is no significant difference among the subjects by (a) group, (b) age, and (c) sex in relation to their knowledge of historical artifacts as indicated by the achievement shift scores on the Historical Artifacts Test.

Definitions

1. Preschool children - for this study, children ages, three, four, and five years are being considered.
2. Aged - the resource persons involved in this study were 65 years of age or older (this age as a criterion is not intended to mean that the researcher subscribes to the stereotypes about old people, but instead is merely being used as a delimitation).
3. History - study of past events, personalities, and traditions.
4. Concepts - something about an idea expressed in words.
5. HAT - Historical Artifacts Test
6. Achievement shift scores - score derived by subtracting HAT pre-test scores from HAT re-test scores.

CHAPTER II

RELATED LITERATURE

Development of Historical Time Concepts

Most of the investigators place the development of historical concepts of time beyond the grasp of the preschool child. An indication of the development of children's ideas of historical time is found in a study by Oakden and Sturt (1922). They asked children to arrange names of outstanding historical persons, such as Christ and Robin Hood, in order of chronological sequence. They found that not until the age of 11 were concepts of historical time sufficiently developed to carry out an activity of this type. When the study was done, history was being taught in the lowest grades of the elementary schools in England. They suggested that rather than postponing the teaching of history, attention should be given to helping children understand the time relationships required to understand history.

Pistor (1940) did a study to measure understandings of historical time by providing two methods of instruction in history to children in grades four through six. Questions on the "Battery of Time Concepts Test," developed by Pistor, pertained to chronology, sequence, historical analogies, and historical absurdities. The design of the study involved an experimental group which had received previous instruction in which geography was the chief subject and history was introduced incidentally and a control group in which traditional courses in

geography and history had been taught in grades four and five. The initial test at the beginning of the sixth grade produced equivalent scores. Pistor concluded that previous training had no effect upon the development of the time concepts of the children studied. These results are questionable because the validity of the test battery for sixth and seventh grade children is uncertain.

Arnsdorf (1961) developed a study to determine the effect of organized instructional attempts to increase children's ability to understand historical time concepts. Arnsdorf's study was similar to Pistor's study in that one group received instruction dealing with historical time concepts, and a control group of sixth graders did not receive instruction. Arnsdorf concluded that sixth grade students can profit from instruction designed to increase their understanding of, and their ability to use, the time relationships common in the social studies. The investigator noted that his conclusions differed from Pistor's since Pistor maintained that increased understanding could only be achieved through maturation.

McAulay (1963) did a study in which he asked 165 second grade children 13 questions related to the various aspects of time. These questions did not seem to be related to the questions McAulay said he was trying to answer. Four questions dealt with the child's age and the ages of members of his family. Five questions were concerned with comparisons, e.g., "Who is older, your father or President Eisenhower?" and "Which is longer, a week or a month?" Four questions were associated with historical events, e.g., "Who lived first, Washington or Lincoln?" "Who lived here first, the white people or the Indians?" McAulay concluded that social studies curricula for the

second grade underestimate the child's understandings of time. One cannot give too much credence to this study since many ambiguities are associated with it.

A few studies (Spodek, 1965; Wann, Dorn, and Liddle, 1962) have indicated that preschool age children are interested in, and may be able to deal with events remote in time. Powell (1974) developed an instrument, the Time Understanding Test, which determined young children's concepts of historical time as well as general divisions of time and time and the life cycle. This instrument was presented to 90 subjects between the ages of three years and five years. Findings did not support those of Oakden and Sturt (1922) or Pistor (1940) which placed the development of historical time concepts well beyond the preschool years. Many of the three-year-olds (43-63%) and the majority of the four-year-olds (73-93%) could identify the oldest mode of travel and changes in styles of automobiles, airplanes, and houses throughout history. Powell concluded that young children are not only interested in history, but also have impressive knowledge of changes that have occurred throughout history, as measured by the Time Understanding Test. Based on results of this study, which was the only systematic study of preschool children's historical concepts found, it seems feasible that teachers of young children might plan to integrate the study of history with the study of science and other social studies.

Involvement of Aging Adults With Young Children

Evidence of programs using aging adults in activities with young children does exist, but the programs have not been designed as

research projects. These programs exist at the national, state, and local levels.

The best known federal project of this kind is the Foster Grandparent program, originally administered by the Administration on Aging, later transferred to the Department of Health, Education, and Welfare, where funding and administration occurred through the Administration on Aging, and finally transferred to ACTION on July 1, 1971. This program now includes 10,500 foster grandparents serving 21,000 children in 137 projects in 50 states. Stipulations of the programs are that foster grandparents must be 60 years of age or older and of low income and they must serve needy children in health, education, and welfare and related settings. However, it is not only the needy aged and the needy children who need and would benefit from intergenerational contact.

In another project, a "Sensitivity to the Aging Process" unit was taught to 39 children, aged nine to eleven, during their social science period over seven weeks (Ianni, 1973). The author reported that the children and the older adults gained much from the experience. The children grasped the idea that older adults need meaningful activity in their lives, as well as good health, companionship, and adequate income. One of the reported outcomes was strengthened ties between the students and the older citizens of the community.

A school project in Edmonds, Washington, draws upon a group called SOURCE (Seniors Offering Useful Resources for Children's Education) as resources in the school district. Members of the group sign up to use their skills, interests, and hobbies in working with children (Strachen, 1973). Teachers fill out requests and the Center director

matches them with volunteers. It was reported that the elderly classroom aides brought to the classroom a large store of warmth, patience, and affection and furnished the reassuring grandparent image "that so many children are otherwise missing" (Strachen, 1973, p. 175).

Downey (1974) in cooperation with one principal of a school where a Retired Senior Volunteer Program (RSVP) had been implemented, believed there are

> . . . fantastic benefits for the students, primarily the interaction that takes place. The older volunteers are sewing, crocheting, doing calisthenics, cooking, reading, playing games, and teaching knot-tying for the youngsters, but more than that they're sharing with the children their life of experiences that range over some 70 or 80 years. They're expanding the child's sense of time and their understanding of history (p. 38).

Another principal started the Grandparent Program several years ago. He felt that children whose only family contacts were with their parents or their siblings were losing the sense of family tradition. Conversely, people who had already raised a number of children, and grandchildren had much to offer young children. He believed that "grandparents" could establish a particular rapport with young children. Because they have had the experience of raising children but are no longer involved in the daily problems of parenthood, they can teach children much about history, tradition, other countries, and other ways (Morgulas, 1973, p. 66).

Implications for the Present Study

From the research reviewed, it was clear that there are many gaps in present knowledge pertaining to children's understanding of historical time. Studies of children's historical time concepts have

led investigators to place the ability to deal with these concepts well beyond the preschool years. However, these studies were done 20 or more years ago, and the methods were not very appropriate for young children. The effects of mass media and extensive travel may have had a great influence on young children in the last decade. Based on the study done by Powell (1974), and since few other studies were found concerning historical concepts of children below the fourth grade, it can be concluded that additional research needs to be done in the area of preschool children's ability to develop historical concepts and the effectiveness of using aging adults to teach meaningful historical experiences to preschool children.

CHAPTER III

METHODS AND PROCEDURES

The overall purpose of this study was to determine the effectiveness of using aging adults as resource persons in teaching historical concepts to young children and in helping them develop an appreciation of their heritage. This study is part of a larger study involving preschool children's perceptions of aging people. To achieve the purposes of these studies, two instruments were developed, a test to measure children's knowledge and a teaching unit to be used as a basis for instruction.

Development of the Research Instruments

The Historical Artifacts Test was used to determine what concepts and beliefs young children possess concerning early pioneer life. The history teaching unit was used in the teaching phase of the unit by the teachers and the aged resource teachers.

Development of the Historical Artifacts Test

The first step in the development of the Historical Artifacts Test, hereafter referred to as the HAT, was the identification of artifacts representative of pioneer life. Artifacts were used to provide the children with objects to manipulate while they were verbalizing their answers to the HAT questions. The investigator

asked direct questions about the uses and purposes of the artifacts and replicas, i.e., "What is the name of this kind of house? Who might live in a home like this one? What is this house made of?" See attached copy of the HAT in Appendix A. A quantitative score was obtained for each subject. The exact responses for each question were recorded. Gestures were recorded as answers to questions asking the child to show, i.e., "Can you show or tell me how the water well works?" A "1" (one) was recorded for correct responses and "0" (zero) was recorded for incorrect responses.

Establishment of Validity for the Hat. Three procedures were used to establish validity for the HAT. First, the original draft, along with the model replicas of the historical artifacts, was submitted to a panel of six judges for evaluation in regard to clarity of the questions and appropriateness of the instrument for use with preschool children. Qualification for selection of these judges was based on academic training in early childhood education, at least three years of teaching experience with preschool children, and a master's degree in early childhood education. Criteria for inclusion of the items on the HAT was that 100 per cent of the judges rated it as clear and appropriate. The judges checklist is in Appendix B. In the second validating procedure, the HAT was used with 16 preschool children in a pilot study to determine the appropriateness with young children. The children's responses indicated that the HAT was appropriate for use with preschool children.

The authenticity of the model replicas of the historical artifacts was determined by submitting them to a panel of three judges for evaluation in regard to authenticity. The criteria for selection of

the judges included an age requirement of 65 or older and experience in living in the mid-western United States in the early 1900's. Criteria for inclusion in the project was that 100 per cent of the judges rated it as authentic. A copy of the judges checklist is in Appendix C.

Establishment of Reliability for the HAT. The reliability of the instrument was determined by randomly selecting eight of the children in each group to re-test on the HAT one week after the initial pre-test. A Spearman Rank Correlation of .93 ($p < .001$) was obtained between the pre-test and the re-test scores.

Administration of the HAT. The HAT was administered to the children individually in an isolated area of the school. The HAT was administered by the investigator who had established rapport with the children previous to the initial testing to prevent the effects that responding to a strange adult might have on the results.

The 12 small replicas of the historical artifacts were placed in a box and drawn out randomly by the children. The investigator questioned the child as he manipulated each object. As the child pulled out the small wood stove, the investigator asked: "What is the name of this object? What was it used for? Who might have used a stove like this? How did this stove work?" The investigator recorded the actual responses the child made as he administered the test. Gestures which indicated knowledge of the use of the replicas were also recorded, i.e., as the child manipulated the water well, the child may have responded to the question "Can you tell me or show me how it works?" by turning the windlass to move the bucket up and down.

This action was recorded as a correct response.

Development of the Pioneer History Unit

Since there was no pioneer history teaching unit available which was appropriate for preschool children, the next step was to develop a social studies unit to be used by teachers, as well as the aging adults in teaching historical concepts to the young children in the study. Information and activities included in the unit were acquired from historical books, interviews with elderly people, and activities developed by an advisory group of three professional master teachers, two early childhood education student teachers participating in the pilot study, and the investigator.

The experiences were divided into five major areas: food, clothing, homelife, transportation, and recreation. The activities were directly experienced by the children. Re-creation of the experiences for the children was as authentic as possible, to help the children experience the way life was in the pioneer era of history.

Evaluation of the Pioneer History Unit. Three procedures were used to evaluate the pioneer history unit. First, the original draft was used as the basis for instruction in a pilot study with 16 preschool children. Second, the unit was submitted to a panel of five judges for evaluation and suggestion. The judges who were selected were considered to be early childhood education specialists as they had at least a master's degree in early childhood education, knowledge of young children, at least four years of experience teaching preschool children, and knowledge of planning programs for young children. The third evaluation was by the panel of judges who determined the

authenticity of the historical artifacts. The elderly people who had lived in the pioneer era evaluated the unit on authenticity and validity according to their actual experience of these activities. Appropriate revisions were made according to suggestions made by the groups of judges. A copy of the pioneer history social studies unit, "Living History With Young Children," can be obtained from the investigator or the Department of Family Relations and Child Development, Oklahoma State University.

Pilot Study

The revised HAT was used in a pilot study with a group of pre-school children. The group was composed of 15 four-year-olds and one five-year-old, with approximately equal numbers of boys and girls. Some degree of rapport was established between the investigator and the child before the test was administered. Subjects were children enrolled in the Child Development Laboratories at Oklahoma State University. Using the HAT as a pre-test, individual interviews were done in an isolated area of the school.

When all of the children had responded to the pre-test, activities from the pioneer history unit were planned and implemented at the laboratory by teachers with assistance from adults and five aged resource teachers for a period of eight weeks. At the end of the eight-week period, the 16 children were re-tested on the HAT. The total mean score on the initial test of 26 questions was 11, the total mean score on the re-test was 23. This increase in the mean scores on the HAT was interpreted as indicating that the pioneer history unit and the HAT were effective in determining preschool children's ability

to acquire historical concepts and in measuring them.

Implementation of the Research Design

Selection of Subjects

Subjects were three-to five-year old children enrolled in three Oklahoma State University Child Development Laboratories. There were approximately equal numbers of males and females. The children were primarily from the middle class socio-economic group. Some minority children were also involved. The subjects were enrolled in the laboratories on the basis of their status on a waiting list compiled by date of application. Three half-day groups of subjects totalling 47 children were involved in the study. Appendix D contains the parent approval form completed by their parents.

One group of children received instruction from the pioneer history unit from aged resource persons and the investigator (Experimental Group I). One group of children received instruction from the pioneer history unit from the investigator only (Experimental Group II). One group received no instruction from the pioneer history unit (Control Group).

All three of the head teachers of the groups who participated in the study had master's degrees and graduated from the Family Relations and Child Development Department at Oklahoma State University. All teachers were under 30 years of age, had two to six years of teaching experience, and shared a similar teaching philosophy.

The following criteria were used in assigning children to age groups:

(1) Children from 36 months through 47 months of age were classified as three-year-olds;

(2) Children from 48 months through 59 months of age were classified as four-year-olds;

(3) Children from 60 months through 71 months of age were classified as five-year-olds.

Selection of the Aged Persons to Become Resource Teachers

Four aging adults, two men and two women, were selected for this study. In conjunction with another project concerning children's perceptions of the aged, aged people were interviewed by the investigator for participation in this project. Criteria for selection required that the aged adult resource teachers be physically able, mentally alert and that they possessed a positive attitude for working with preschool children. Knowledge of and actual living experience in this period of history were also criteria. No educational background or previous teaching experience was required.

Research Procedure

The aged resource teachers taught the historical concepts to the subjects in Group I. In Group II, the same historical concepts were taught by the investigator with no use of aged resource teachers. The children in these two groups attended school in the same rooms, one group in the morning and one group in the afternoon. The investigator was coordinator for both groups in activities dealing with the history experiences. Group II received the same instruction,

except there was no interaction with aged resource teachers.

In Group I, each aged resource teacher came twice a week for two weeks and spent two to four hours with the children in the group during the visit. Group I became acquainted with four different aged resource teachers during the eight week period. Initial visits by the aged resource teachers began one week after the completion of the reliability check on the HAT. Aged teachers demonstrated the use of equipment, involved the children in projects, told stories relating to their childhood, taught songs to the children, and showed pictures from their childhood. These activities were included with the total curriculum for a period of eight weeks. During this time, tape recordings and anecdotal records were taken on the interaction between the children and the aged resource teachers, and the children's comments and reactions to the activities relating to the pioneer history unit.

Group II received the same instruction from the pioneer history unit. The same pictures, activities, stories, and songs were used, except there was no interaction with elderly people at school.

The Control Group received no instruction from the pioneer history unit. This group had no interaction with aged resource teachers at school.

Collection of Data

The children in all groups were administered the HAT as a pre-test. Groups I and II began receiving instruction from the pioneer history unit exactly one week after the HAT reliability check was completed. The instruction from the unit lasted for eight weeks. After the instruction period, the groups of children were re-tested on the

HAT. Analysis of the tape recordings and the anecdotal records yielded further data on the interaction between the children and the aged resource teachers as well as the children's reactions to the history activities.

The data were used to determine the effectiveness of using aged resource teachers to teach history to preschool children and in helping them develop an appreciation for their heritage. The HAT scores were used to analyze the hypotheses. Analysis of Variance was used to analyze the significance of the differences between the scores of the children according to group, age, and sex.

Presentation of Results

This study was used as the basis for developing a prototype social studies unit, "Living History With Young Children," to be used in teaching historical concepts to preschool children in the school setting.. Specific suggestions for using elderly resource teachers in teaching young children were made.

CHAPTER IV

RESULTS AND DISCUSSION

This research was concerned with the ability of young children to acquire historical concepts and the effectiveness of using elderly people to teach history to preschool children. This chapter includes (1) the results of the analysis of variance to determine significant differences in HAT pre-test results by group, age, and sex; (2) the results of analysis of variance to determine significant differences in achievement shift scores by group, age, and sex; (3) a discussion of the correlation between items on the HAT pre-test and re-test; (4) a discussion of selected item responses on the HAT and historical concepts acquired by the children in the study as recorded in anecdotal records; and (5) a discussion of comments and feelings expressed by the elderly resource teachers about this inter-generational project.

HAT Pre-Test Results

Hypothesis 1: There is no significant difference among the subjects by (a) group, (b) age, and (c) sex in relation to their knowledge of historical artifacts as indicated by the pre-test scores on the HAT.

Significance of differences between the mean scores was tested by analysis of variance.

Group

Results of analysis of variance reflecting differences by group on the HAT pre-test are presented in Table I. Subjects in Experimental Group I received history instruction from the elderly resource teachers and the investigator. Subjects in Experimental Group II received instruction in history from the investigator only. The Control Group received no history instruction and engaged in no activities with the aged resource teachers at school.

From a total possible HAT score of 42, the pre-test mean score for Group I was 11.25, for Group II, 16.20, and for the Control Group, 14.17. There was a significant difference ($p < .01$) between scores according to group on the HAT pre-test, with Group I, which was to receive history instruction from the aged resource teachers, scoring lowest.

The greatest difference among groups occurred in the groups of questions about the log cabin, the butter churn, the scrub board, the axe, and the wagon, with Group II scoring significantly higher for all of these groups of questions. Questions about the butter churn had the lowest mean scores for each group. Questions about the home canned food had the highest mean score for each group.

Age

Results of analysis of variance reflecting differences by age on the HAT pre-test are presented in Table II. The lowest mean score, 9.00, was obtained by the three-year-olds. The four-year-olds with a mean score of 14.00 ranked next, and the five-year-olds had the highest mean score, 19.20. There was a significant difference

TABLE I

ANALYSIS OF VARIANCE REFLECTING DIFFERENCES
BY GROUP ON THE HAT PRE-TEST

Questions	Mean Scores			Level of Probability
	Group I N=16	Group II N=15	Control N=17	
Log Cabin (1-4)	.88	1.73	1.41	.02
Wood Stove (5-8)	1.13	1.67	1.41	N.S.
Water Well (9-11)	1.00	1.53	1.70	N.S.
Quilt (12-14)	1.00	1.13	.88	N.S.
Butter Churn (15-17)	.13	.67	.12	.009
Bonnet (18-20)	.44	.67	.18	N.S.
Scrub Board (21-23)	.25	.67	1.30	.004
Canned Food (24-28)	2.06	1.87	1.82	N.S.
Stereoscope (29-31)	1.31	1.73	1.77	N.S.
Axe (32-34)	.44	1.06	.88	.03
Rifle (35-38)	1.63	1.67	1.59	N.S.
Wagon (40-42)	1.00	1.80	1.11	.06
Total Scores on the HAT	11.25	16.20	14.17	.01

TABLE II

ANALYSIS OF VARIANCE REFLECTING DIFFERENCES
BY AGE ON THE HAT PRE-TEST

Questions	Mean Scores			Level of Probability
	Threes N-12	Fours N-26	Fives N=10	
Log Cabin (1-4)	.83	1.35	1.90	.017
Wood Stove (5-8)	.58	1.53	2.00	.002
Water Well (9-11)	.75	1.42	2.20	.009
Quilt (12-14)	.75	1.03	1.20	N.S.
Butter Churn (15-17)	.17	.03	1.10	.0001
Bonnet (18-20)	.41	.42	.40	N.S.
Scrub Board (21-23)	.17	.80	1.30	.10
Canned Food (24-28)	1.75	1.96	2.00	N.S.
Stereoscope (29-31)	1.25	1.61	2.00	.05
Axe (32-34)	.50	.61	1.60	.0006
Rifle (35-38)	1.24	1.77	1.70	N.S.
Wagon (40-42)	.58	1.42	1.80	.02
Total Scores on the HAT	9.00	14.00	19.20	.0001

($p < .0001$) in scores according to age. As the age of the subjects increased, their scores increased. The five-year-old subjects scored highest on all but two groups of questions on the HAT. The four-year-old subjects scored highest on the questions related to the quilt and rifle.

Sex

Results of analysis of variance reflecting differences by sex on the HAT pre-test are presented in Table III. The mean score for the females was 15.04 and the mean score for the males was 12.63. Analysis of variance indicated that this difference was significant only at the .06 level of probability.

The females scored higher than the males on the groups of questions about wood stoves, quilts, butter churns, bonnets, scrub boards, home canned food, stereoscopes, and axes. Most of these items are artifacts commonly associated with female tasks. The males scored higher than the females on questions about log cabins and rifles, items often associated with males. The males and the females scored the same on the questions about water wells and wagons.

Achievement Shift Scores

Hypothesis 2: There is no significant difference among the subjects by (a) group, (b) age, and (c) sex in relation to their knowledge of historical artifacts as indicated by the achievement shift scores on the HAT.

HAT pre-test scores were subtracted from HAT re-test scores in order to calculate an achievement shift score. Analysis of variance

TABLE III

ANALYSIS OF VARIANCE REFLECTING DIFFERENCES
BY SEX ON THE HAT PRE-TEST

Questions	Mean Scores		Level of Probability
	Males N = 24	Females N = 24	
Log Cabin (1-4)	1.50	1.17	N.S.
Wood Stove (5-8)	1.20	1.58	N.S.
Water Well (9-11)	1.42	1.42	N.S.
Quilt (12-14)	.83	1.16	N.S.
Butter Churn (15-17)	.21	.38	N.S.
Bonnet (18-20)	.25	.58	N.S.
Scrub Board (21-23)	.38	1.13	.004
Canned Food (24-28)	1.70	2.13	N.S.
Stereoscope (29-31)	1.42	1.80	N.S.
Axe (32-34)	.58	1.00	.03
Rifle (35-38)	1.83	1.41	N.S.
Wagon (40-42)	1.30	1.30	N.S.
Total Scores on the HAT	12.63	15.04	.06-N.S.

was used to test for significant differences between scores according to group, sex, and age.

Group

Pre-test, re-test, and achievement shift scores by group are presented in Table IV. The largest achievement shift score, 18.23, occurred in Group I taught by the aged resource teachers. Group II, taught history by the investigator, had an achievement shift score of 9.73. The Control Group had an achievement shift score of .41. Since the Control Group received no history instruction at school, this small increase in knowledge may be attributed to the influence of the media in a bicentennial year in which much emphasis is toward history. There is also the possibility that the subjects became test-wise, since the same form of the HAT was used.

There was a significant difference ($p < .0001$) in scores according to group, with Group I scoring significantly higher. Group I, taught by the elderly resource teachers, increased their achievement shift scores almost twice as much as the children who were taught by the investigator only. However, Group II significantly increased their achievement shift scores, indicating that the preschool children in the study did learn the history concepts which were measured by the HAT and organized in the pioneer history unit.

Findings in this study did not support those of previous research (Oakden and Sturt, 1922; Pistor, 1940), which placed the ability to develop historical time concepts well beyond the preschool years. These findings have implications for those responsible for the development and design of programs for young children and elderly

people. Using elderly people to teach history to young children can be a successful way to increase inter-generational contact in our society as well.

The mean scores of the children in Group I, taught by the elderly resource teachers, were higher in every area of the HAT, except in the groups of questions pertaining to home canned food, where the children in Group II scored higher. The differences between the mean scores for the groups of questions about log cabins, wood stoves, butter churns, quilts, bonnets, axes, rifles, and wagons were significant beyond the .001 level of significance. Mean scores by group were significantly different at the .05 level on the groups of questions dealing with water wells and scrub boards.

The children in Group I exhibited the largest increase in mean scores for questions concerning log cabins. The greatest increase in scores for Group II was in questions about the scrub board. The group of questions dealing with the stereoscope showed the smallest increase in mean scores for Group I and Group II. This artifact was one which originally was least familiar to the children.

Age

Pre-test, re-test, and achievement shift scores for subjects by age are listed in Table V. The largest achievement shift score, 15.79, occurred for the three-year-old children. The next highest achievement shift score, 7.16, was obtained by the four-year-old children. An achievement shift score of 7.14 was made by the five-year-old children. There was a significant difference ($p < .003$) in achievement shift scores on the HAT by age.

TABLE IV

ANALYSIS OF VARIANCE REFLECTING PRE-TEST, RE-TEST, AND ACHIEVEMENT SHIFT SCORE DIFFERENCES BY GROUP

Questions	Scores Group I (N=16)			Group II (N=15)			Control (N=17)			Level of Probability
	Pre-	Re-	Ach. Shift	Pre-	Re-	Ach. Shift	Pre-	Re-	Ach. Shift	
Log Cabin (1-4)	.88	3.48	2.60	1.73	3.04	1.31	1.41	1.41	.00	.0001
Wood Stove (5-8)	1.13	3.48	2.35	1.67	2.86	1.19	1.41	1.52	.11	.0001
Water Well (9-11)	1.00	1.76	.76	1.53	1.72	.19	1.70	1.26	-.44	.017
Quilt (12-14)	1.00	1.69	.69	1.13	1.42	.29	.88	.81	.07	.0003
Churn (15-17)	.13	2.19	2.06	.67	1.67	1.00	.12	.29	.17	.0001
Bonnet (18-20)	.44	1.96	1.82	.67	1.92	1.25	.12	.51	.33	.003
Scrub Board (21-23)	.25	2.77	1.52	.67	2.10	1.43	1.30	1.30	.00	.002
Canned Food (24-28)	2.06	2.82	.76	1.87	2.75	.88	1.82	1.82	.00	N.S.

TABLE IV (Continued)

Questions	Scores Group I (N=16)			Group II (N=15)			Control (N=17)			Level of Probability
	Pre-	Re-	Ach. Shift	Pre-	Re-	Ach. Shift	Pre-	Re-	Ach. Shift	
Stereoscope (29-31)	1.31	2.01	.70	1.73	1.73	.00	1.77	1.72	-.05	N.S.
Axe (32-34)	.44	1.91	1.47	1.06	1.94	.88	.88	1.10	.22	.001
Rifle (35-38)	1.63	3.22	1.59	1.67	2.67	1.00	1.59	1.31	-.28	.0004
Wagon (40-42)	1.00	2.65	1.65	1.80	2.11	.31	1.11	1.39	.28	.0004
Total Scores on the HAT	11.25	29.94	18.23	16.20	25.93	9.73	14.17	11.44	.41	.0001

TABLE V

ANALYSIS OF VARIANCE REFLECTING PRE-TEST, RE-TEST, AND ACHIEVEMENT SHIFT SCORE DIFFERENCES BY AGE

Questions	Scores Three-year-olds (N=12)			Four-year-olds (N=26)			Five-year-olds (N=10)			Level of Probability
	Pre-	Re-	Ach. Shift	Pre-	Re-	Ach. Shift	Pre-	Re-	Ach. Shift	
Log Cabin (1-4)	.83	2.99	2.16	1.35	2.38	1.03	1.90	2.80	.90	.002
Wood Stove (5-8)	.58	2.99	2.41	1.53	2.29	.76	2.00	3.00	1.00	.003
Water Well (9-11)	.75	1.33	.58	1.42	1.63	.21	2.20	1.70	-.50	N.S.
Quilt (12-14)	.75	1.33	.58	1.03	1.32	.29	1.20	1.44	.24	N.S.
Churn (15-17)	.17	1.75	1.58	.03	.93	.90	1.10	2.00	.90	N.S.
Bonnet (18-20)	.42	1.92	1.50	.42	1.32	.90	.40	1.70	1.30	N.S.
Scrub Board (21-23)	.17	1.33	1.16	.80	1.80	1.00	1.30	1.90	.60	N.S.

TABLE V (Continued)

Questions	Scores Three-year-olds (N=12)			Four-year-olds (N=26)			Five-year-olds (N=10)			Level of Probability
	Pre-	Re-	Ach. Shift	Pre-	Re-	Ach. Shift	Pre-	Re-	Ach. Shift	
Canned Food (24-28)	1.75	2.50	.75	1.96	2.20	.24	2.00	3.10	1.10	N.S.
Stereoscope (29-31)	1.25	1.91	.66	1.61	1.77	.17	2.00	1.80	-.20	N.S.
Axe (32-34)	.50	1.50	1.00	.61	1.37	.76	1.60	2.50	.90	N.S.
Rifle (35-38)	1.25	2.75	1.50	1.77	2.22	.45	1.70	2.40	.70	.05
Wagon (40-42)	.58	2.49	1.91	1.42	1.87	.45	1.80	2.00	.20	.0003
Total Scores on the HAT	9.00	24.79	15.79	14.00	21.10	7.16	19.20	26.34	7.14	.003

All of the three, four, and five-year-old children in the experimental groups did increase their knowledge of historical artifacts as shown by their achievement shift scores on the HAT, indicating that they were able to acquire historical concepts which were taught to them in a meaningful way. Ten of the twelve three-year-old children received instruction from the elderly resource teachers in Group I, which was the group which had the most significant difference in achievement shift scores. The elderly resource teachers were effective teachers of history, even with the youngest children.

Responses to questions about the wood stove ($p < .0003$), the log cabin ($p < .002$), wagon ($p < .0003$), and the rifle ($p < .05$) were significantly different according to age, with the three-year-old children acquiring the greatest increases. On the other groups of questions, there was no significant difference according to age.

Sex

Pre-test, re-test, and achievement shift scores for subjects by sex are presented in Table VI. The achievement shift score obtained by the male subjects, 11.21, was significant at the .02 level. The achievement shift score of the females was 7.16. There were approximately equal numbers of males and females in each group, so this finding cannot be attributed to group instruction differences. However, since the females did score higher on the pre-test, the female shift score could not increase as much as the score of the males, who originally scored lower on the HAT.

TABLE VI

ANALYSIS OF VARIANCE REFLECTING PRE-TEST, RE-TEST, AND ACHIEVEMENT SHIFT SCORE DIFFERENCES BY SEX

Questions	Scores						Level of Probability
	Males (N=26)			Females (N=26)			
	Pre-test	Re-test	Ach. Shift	Pre-test	Re-test	Ach. Shift	
Log Cabin (1-4)	1.50	1.90	1.40	1.17	2.32	1.15	N.S.
Wood Stove (5-8)	1.20	1.68	1.48	1.58	2.50	.92	N.S.
Water Well (9-11)	1.42	1.62	.20	1.42	1.54	.12	N.S.
Quilt (12-14)	.83	1.20	.37	1.16	1.42	.26	.02
Churn (15-17)	.21	1.41	1.20	.38	1.30	.92	N.S.
Bonnet (18-20)	.25	1.61	1.36	.58	1.26	.88	N.S.
Scrub Board (21-23)	.38	1.66	1.28	1.13	1.78	.65	N.S.

TABLE VI (Continued)

Questions	Scores						Level of Probability
	Males (N=26)			Females (N=26)			
	Pre-test	Re-test	Ach. Shift	Pre-test	Re-test	Ach. Shift	
Canned Food (24-28)	1.70	2.38	.68	2.13	2.51	.38	N.S.
Stereoscope (29-31)	1.42	1.90	.48	1.80	1.76	-.04	N.S.
Axe (32-34)	.58	1.74	1.16	1.00	1.54	.54	.02
Rifle (35-38)	1.83	2.59	.76	1.41	2.14	.73	N.S.
Wagon (40-42)	1.30	2.14	.84	1.30	1.95	.65	N.S.
Total Scores on the HAT	12.63	21.83	11.21	15.04	22.02	7.17	.02

The achievement shift scores of the males was higher than the scores of the females on every group of questions included on the HAT. There was a significant difference between males and females on the questions about quilts ($p < .04$) and axes ($p < .02$), with males scoring higher than females in these areas.

When analysis of variance was computed by groups, it revealed that males and females in Group I had significantly higher achievement shifts ($p < .01$) than those in Group II and males and females in Group II had significantly higher shifts ($p < .01$) than the control group. These results indicate that the males and females who received history instruction from the aged resource teachers were able to increase their HAT scores more than the other children in the study.

Determination of Relationship Between Items on the HAT

Pearson Product-moment correlation method was used to determine the relation-ship which existed between the groups of questions (i.e., log cabin, water well, bonnet, etc.) on the HAT. Results of the analysis for the pre-test are in Table VII and results of the analysis for the re-test are in Table VIII.

Pre-test Correlation Results

The groups of questions related to log cabins, wood stoves, water wells, quilts, butter churns, home canned foods, stereoscopes, axes, rifles, and wagons were most highly correlated ($p < .001$) with each other. The group of questions relating to scrub boards was highly correlated ($p < .01$) with the other groups of questions. Questions

TABLE VII

PEARSON *r* CORRELATION COEFFICIENTS FOR GROUPS OF QUESTIONS ON THE *HAT* PRE-TEST

	Groups of Questions												
Groups	1-4	5-8	9-11	12-14	15-17	18-20	21-23	24-28	29-31	32-34	35-38	40-42	Total
Cabin (1-4)	1.00												
Stove (5-8)	.42**	1.00											
Well (9-11)	.44**	.36**	1.00										
Quilt (12-13)	.22	.41**	.26	1.00									
Churn (15-17)	.39**	.18	.16	.19	1.00								
Bonnet (18-20)	.02	.03	.18	.07	.23	1.00							
Scrub Bd. (21-23)	.15	.30*	.21	.08	.15	-.08	1.00						
Food (24-28)	.16	.46***	.33*	.34*	-.02	.10	.00	1.00					
Stereo. (29-31)	.24	.46***	.36**	.06	.14	-.04	.24	.36**	1.00				
Axe (32-34)	.36**	.44	.34*	.29*	.43**	.04	.08	.21	.34*	1.00			
Rifle (35-38)	.54***	.43***	.21	.44**	.14	-.08	-.05	.28*	.12	.18	1.00		
Wagon (40-42)	.38**	.34*	.07	.44**	.41	.12	.08	.50***	.53***	.60***	.55***	1.00	
Total *Hat* Scores	.67***	.76***	.62***	.58***	.49***	.20	.36*	.50***	.53***	.60***	.55***	.57***	1.00

*** ($p < .001$) ** ($p < .01$) * ($p < .05$)

TABLE VIII

PEARSON r CORRELATION COEFFICIENTS FOR GROUPS ON QUESTIONS ON THE HAT RE-TEST

	Groups of Questions											
Groups	1-4	5-8	9-11	12-14	15-17	18-20	21-23	24-28	29-31	32-34	35-38	40-42	Total
Cabin (1-4)	1.00												
Stove (5-8)	.62***	1.00											
Well (9-11)	.48***	.35**	1.00										
Quilt (12-14)	.70***	.55***	.40**	1.00									
Churn (15-17)	.71***	.37**	.34**	.60***	1.00								
Bonnet (18-20)	.43***	.32*	.42**	.54***	.63***	1.00							
Scrub Bd. (21-23)	.41**	.43**	.52***	.34**	.27*	.34**	1.00						
Food (24-28)	.31*	.51***	.27*	.43**	.20	.17	.19	1.00					
Stereo. (29-31)	.37**	.56***	.35**	.35**	.24	.34**	.33**	.50***	1.00				
Axe (32-34)	.57***	.53***	.33**	.56***	.56***	.50***	.34**	.37**	.52***	1.00			
Rifle (35-38)	.64***	.64***	.39**	.50***	.47***	.29*	.24	.72***	.55***	.51***	1.00		
Wagon (40-42)	.57***	.58***	.44**	.33**	.35**	.37**	.37**	.37**	.53***	.42**	.54***	1.00	
Total Hat Scores	.82***	.78***	.63***	.79***	.68***	.63***	.58***	.61***	.66***	.73***	.80***	70***	1.00

*** ($p < .001$) ** ($p < .01$ * ($p < .05$)

relating to the bonnet were not significantly correlated with the other groups of questions on the HAT pre-test.

All groups of questions, except those related to the scrub board and bonnet, were significantly correlated at the .001 level of significance with total HAT score. Scrub board questions were significantly correlated with the total HAT score at the .01 level of significance. Questions relating to the bonnet were not significantly correlated ($p < .17$) with the total HAT score. However, 72 per cent of the subjects made little or no response to this group of questions of the HAT pre-test, indicating little knowledge about bonnets. These results show that there was a highly significant relationship between all of the groups of questions on the HAT pre-test, except the group of questions about bonnets.

Re-Test Correlation Results

All of the groups of questions were very highly significantly correlated ($p < .0001$) with each other and the total score for the HAT. These results show that after instruction from the pioneer history unit, responses of the children clearly indicate that these questions are closely related to each other.

Item Responses and Observations

Responses to questions on the HAT are presented because many of the children not only answered the questions correctly, but also continued to clarify their answers indicating their understanding of the concept. Observations related to the pioneer history project are discussed because they revealed insights into the children's concepts

of the pioneer era and suggested to the investigator the meanings the children were associating with the instruction they were receiving. In many instances, these observations of the children's play indicated to a greater extent than the HAT, the concepts the children were developing. These records were made by the investigator throughout the project as the incidents occurred in the children's experiences with the pioneer activities, interactions with the elderly people, and spontaneous dramatic play.

Weaver (1965) suggested that in the introduction of historical concepts to young children, the emphasis must be on those aspects with which youngsters can identify: customs, food, shelter, recreation, and transportation. Therefore, the pioneer history unit, which was used as a basis for instruction in this project, dealt with the ideas of food, clothing, homelife, recreation, and transportation.

The comments and anecdotes are presented with the area with which they are most closely related. The children are identified by group, sex, and age. Experimental Group I received history instruction from the aged resource teachers and the investigator, Experimental Group II received history instruction from the investigator only.

Item Responses on the HAT Relating to Food

The groups of questions on the HAT which measured knowledge about pioneer food were those dealing with wood stoves, butter churns, home canned foods, and rifles. Some responses made by the children are listed for each area.

Wood Stoves. "It's a stove used by the pioneer people to cook food, sometimes bears and chickens. It uses wood and fire" (3, M, I). "They used it a long, long time ago" (3, F, I). "My great grandma and grandpa might have used this for cooking" (3, F, I). "Pioneers used it to cook. They also needed it to keep them warm in the winter" (5, M, II).

Butter Churn. "This is a butter churn like the pioneers used to make butter. They also got buttermilk from it" (3, M, I). "Put cream in the churn to make butter, then slosh it up and down" (4, F, II).

Home Canned Food. The group of questions concerning home canned food was one of the most difficult areas for the children as evidenced by many "I don't know" replies. However, a few statements were: "These beans were cooked and cooked to be canned. People did this a long time ago. Now we get our food from stores" (3, F, I). "These green beans were canned so they won't get spoiled. People did this a long time ago because they didn't have refrigerators" (4, F, I).

Rifle. The rifle concepts were included in the unit to teach the children in the study that pioneers used guns to kill wild animals for food and to protect their families from danger. The most common statement on the pre-test was "Guns are used to shoot people." However, on the re-test, comments similar to these were frequently made: "We don't use guns very much because there are no bears at nursery school" (3, F, I). "The pioneers used guns to shoot animals for food" (3, F, I). "Grandpa Lee (aged resource teacher) might've used a gun like this to shoot animals" (3, F, I).

Anecdotes and Comments

The following comment was made by a three-year-old male in Group I as he carried in a bucket of pretend vegetables from his pretend garden, then left his log cabin, made from blocks. When asked where he was going, he replied, "To the well for water to cook carrots, potatoes, spinach, and peas for supper. The tomatoes aren't finished growing yet though." This child very accurately assumed the role of a pioneer who grew his own food, and he realized that pioneers often got water for cooking from a well, which was located outside the cabin.

On the first day Grandpa Lee (an elderly resource teacher) did not come to school, a three-year-old female in Group I, built a "wood stove" from large, hollow blocks explaining that one part was for the wood, one part was to bake cookies, and one part was a warm chair where Grandpa Lee could sit. She had acquired the concept that pioneers used wood for fuel, and that stoves were much different in the pioneer era than they are now. She also indicated the concern she had for the elderly man who has been teaching her about the ways of living in another period of time.

A four-year-old female in Group II commented one day, "Before they had ovens, the pioneers used fireplaces." She was exhibiting some knowledge of chronological occurrences of food preparation.

As a three-year-old female in Group I was searching through the housekeeping area of the school, she was asked what it was she was looking for, to which she replied, "I'm looking for a pan, a big pan, because my man, he came home with a turkey. He used his rifle. It's for supper." She made an important comparison between the pioneer's use of guns to supply food for the family and the use of guns today

for violent purposes, which is a common association made by many children.

Several children in Group I were involved in the process of making apple butter. One three-year-old female said, "We can can it like the tomatoes and the green beans. Then it won't spoil. It will keep long enough to take on our picnic." This child had learned what happens to food if it is not preserved, and that pioneers had methods of preserving food. She was developing an awareness that people who lived in the pioneer era did not depend solely on stores for the foods they ate.

Item Responses on the HAT Relating to Clothing

The groups of questions on the HAT which measured knowledge about pioneer clothing were those dealing with the bonnet and the scrub board. Some responses are listed for each.

Bonnet. "My great grandma might've worn this" (3, F, I). "Sometimes pioneers made their clothes at home" (3, M, I). "A pioneer girl sewed 'em (her clothes) at home. There weren't many stores (4, M, I).

Scrub Board. "Take this and soap, then rub it to make it clean" (3, F, I). "Scrub clothes with this and then hang them up to dry" (3, F, I).

Anecdotes and Comments

The following statements were made by a three-year-old female in Group I while standing in a pretend log cabin made from large, hollow blocks: "Now Barbie, put on your apron so you don't get dirty.

I have to make butter. You wash those clothes, the scrub board is by the well." The child who made these comments had acquired many historical concepts, which enabled her to accurately assume the role of a pioneer woman in her dramatic play.

A four-year-old male clarified a statement made by his friend when he said, "Pioneer women didn't wear hats, they wore bonnets!" He was making a close distinction between terms the pioneers used to describe particular items of clothing.

Item Responses From the Hat Relating to Homelife

The groups of questions on the HAT which referred to the area of homelife were log cabins, water wells, quilts, and axes. Comments from each area are listed.

Log Cabin. "Pioneers made their houses from logs because they didn't have stores to buy lumber" (4, M, I). "Pioneers used logs because they had trees from the forest. There was no place to buy lumber and bricks" (5, M, II).

Axe. "Pioneers used a double bladed axe to chop trees down and make notches" (5, M, II). "Pioneers didn't have electricity, no electric saws, so they used an axe. It was very hard work" (4, F, II). "This is an axe like Grandpa Lee used. People used this more a long time ago than they do now, because we don't use so much wood now" (4, M, I). "Pioneers had to cut trees to make their houses" (4, M, I).

Water Well. "A long time ago, they carried water from the well to drink" (4, M, II). "Pioneers get water from the well. They use a dipper to get water to drink. They get bucketfulls, too" (5, M, II).

Quilt. "A long time ago they sewed quilts from pieces. A long, long time ago they made everything" (4, M, II).

Anecdotes and Comments

A four-year-old male explained to his mother, "Did you know that in the pioneer days they had log cabins? They had dirt floors and logs for walls." This child made comparisons which will enable him to have more appreciation for the buildings and comforts of today.

As the aged resource teacher was demonstrating log notching for the children, a four-year-old male very appropriately said, "Boy, I wouldn't want to build a whole house!" He had learned that it was very hard work to build cabins by hand.

A four-year-old male in Group I reported, "Pioneers used fire and got wood from trees they cut down. They used fire for light. Candles were long to make and quick to burn."

A four-year-old female in Group I explained while watching an aged resource teacher quilt, "We all will work hard so we can have a warm, good quilt for bed."

Item Responses From the Hat Relating to Recreation

The group of questions on the HAT which indicated knowledge in the area of recreation dealt with the stereoscope. These comments

were made on the HAT re-test: "This is an old-timey viewmaster" (5, M, II). "You look through it and move the picture to change the people" (3, F, I).

Anecdotes and Comments

Two three-year-old girls in Group I had built a log cabin from hollow blocks. When finished they said, "We need some music. The house is finished, so we can dance."

A four-year-old male in Group I said, "The pioneers didn't have television. They didn't have time to. I wish we were pioneers. They had all the fun."

Item Responses From the Hat Relating to Transportation

Knowledge in the area of pioneer transportation was measured by questions about wagons.

"This is a wagon to carry things and people to places. They used them a long time ago because they didn't invent cars yet. That wagon sure was a bouncy old thing!" (4, F, II). "This wagon needs a horse to go places. Pioneers walked or used wagons. Cars go faster. They have motors and horses don't" (5, M, II).

Anecdotes and Comments

A four-year-old male in Group I outfitted in cowboy boots and hat, went running through the room. When asked where he was going, he replied, "I'm taking the wagon to town." This comment showed that he realized that the pioneers did not have cars, and used wagons for

transportation.

After the aged resource teacher showed the children in Group I a model wagon and explained the many parts of the harness, thirteen of the sixteen children in the group asked the teacher to help them make a wagon like it. They worked at the woodworking area, as each of them collected four round pieces for wheels and string to make a harness to tie up the horses.

Comments Expressed by Elderly Resource Teachers

Comments made by the aged resource teachers were collected throughout the eight-week project. The adults, with ages ranging from 67 to 80 years of age, agreed that the experience was enjoyable and rewarding. They also said that this type of project could be of great importance to children. All of the volunteers commented that if they could do it over again, they would choose to participate.

The investigator noted that the aged resource teachers easily entered this type of situation and seemed to anxiously anticipate periods with the children. The men spent longer periods of time with the children, as the women resource teachers mentioned that they had responsibilities to care for at home.

When integrating aged people into a preschool program, allowances must be made for sickness and other emergencies encountered by aging adults. The aged resource teachers were brought to and from school by one of the researchers to alleviate transportation worries. However, one man commuted 28 miles for each of his visits.

A party was given on the final day of the project, which provided an opportunity for all of the aged resource teachers to meet at school. When the taffy-pull party was over and the children realized that the aging adults were leaving, they begged them to stay "just a little longer." As the aged resource teachers hesitatingly left, the 16 children lined up by the fence and waved good-bye.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Summary

Purpose of the Study

The major purpose of this study was to determine the effectiveness of using elderly resource teachers in teaching historical concepts to young children and in helping them develop an appreciation for their heritage. Since no pioneer history teaching unit appropriate for preschool children was available, the unit, "Living History With Young Children," was developed by the investigator early in the study. This unit covered the five areas of food, clothing, homelife, recreation, and transportation with activities and experiences for three to five-year-old children. The unit was used as a basis by the elderly resource teachers and the investigator throughout the project. No appropriate instrument was available to achieve the purposes of this study, therefore, a multi-sensory instrument, the Historical Artifacts Test (HAT) was developed.

Specific purposes of the study were to: (1) develop an historical artifacts test to determine young children's concepts about early pioneer life; (2) develop an historical teaching unit containing activities and experiences appropriate for three-to five-year-old children to increase their awareness of their heritage; (3) determine

the abilities of young children to acquire concepts of an historical nature; (4) compare the effectiveness of a program using the aged as resource teachers and a program using the investigator only as the history teacher.

Methods of the Study

The subjects were 47 children, three, four, and five years of age who were enrolled in three of the Oklahoma State University Child Development Laboratories. There were approximately equal numbers of boys and girls. The subjects made up three groups for the study. Experimental Group I, using elderly resource teachers, Experimental Group II, using the investigator, and the control Group, receiving no history instruction. The HAI was administered to each subject by the investigator. Twenty-four children were randomly selected to be re-tested for the purpose of establishing a measure of reliability for the HAI. All testing was done during the period from January 15, 1976 to March 11, 1976.

Spearman rank correlation coefficients were computed between initial test scores and re-test scores to establish a measure of reliability for the HAI. Pearson product moment correlation method was used in an analysis of question groups on the HAI. Analysis of variance was used to determine whether there were significant differences according to group, sex, and age for HAI scores by question groups and total HAI scores. Means, percentages, and anecdotal records were analyzed in order to determine what children actually knew about the area studied.

Results and Conclusions

Major results of the study were:

1. The HAT was established as a reliable instrument for testing three-, four-, and five-year-old children's concepts of historical artifacts.

2. The technique used in administering the HAT was highly effective with three-, four-, and five-year-old children.

3. There was a difference ($p < .0001$) among HAT scores of subjects in the three groups, with Group I scoring significantly highest.

4. There was a difference ($p < .003$) in the children's scores for groups by age with the three-year-old children scoring significantly higher on the HAT.

5. There was a significant difference ($p < .02$) according to sex in the subject's concepts of pioneer history as indicated by HAT scores, with males scoring higher.

6. "Living History With Young Children," a pioneer history unit developed to implement this study, was effective for use with the preschool children in this study.

On the basis of results, it was concluded that three-, four-, and five-year-old children can profit from curricula designed to help them understand concepts of history. It was also concluded that the group of young children which was taught by the elderly resource teachers possessed greater knowledge of the pioneer artifacts, as measured by the HAT.

These results support Powell (1974) who suggested that young children could profit from experiences with aged persons, those who have lived history and can help young children come to know about and

understand their historical heritage. These findings also substantiate Margaret Mead's advice (1972) for combining early childhood centers with centers for elderly people. She has suggested that even though elderly people are not strong enough to do all of the work involved in caring for young children, they can sit and listen to them, tell them stories, teach them historical crafts, and--most importantly--provide continuity in their lives. Here is a great resource for everyone else is too busy.

Methodological Limitations of the Research

The methodological limitations of the study include: (1) the sample which was limited to a convenience population, children enrolled in Oklahoma State University Child Development Laboratories; (2) the size of the sample, which restricted the degree to which results can be generalized; (3) variable controls which were limited, i.e., there were no controls for other aspects of the school curriculum and environment, the home environment, the influence of the media, all of which could affect children's concepts of pioneer history; (4) the pioneer history of the location, which spanned approximately the same number of years as the lives of the aged resource teachers; and (5) the limited length of time, eight weeks, due to school scheduling and vacations.

Recommendations

Results of this study indicated the need for further research in the following areas:

1. Replication of this study using a larger sample with a more varied ethnic and economic representation.

2. Replication of this study over a longer period of time.

3. Teachers who are interested in further investigation of the advisability of using elderly resource teachers could use an experimental-control group research design to study the effectiveness of using elderly resource teachers with older children.

4. Teachers who are interested in further investigation of the advisability of teaching young children history could use an experimental-control group research design to study the effectiveness of teaching concepts related to other periods of history, other cultures' history, and other geographic areas' history.

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APPENDIX A

Name of Child _____

Age _____ Group _____

Pre-Test _____ Re-Test _____

Historical Artifacts Test _____ (HAT)

Directions: Interviewer: "We are going to play a surprise game. I have some surprises in this box for us to look at and talk about. Put your hand in and choose one. (If child does not respond, demonstrate by choosing one. "Now it's your turn to choose one." The purpose of this procedure is to re-order the test items for each child. Record actual responses in the blanks at the left. Place a 1 in the blank for correct response, 0 for incorrect response.)

Log Cabin

_____1. What is the name of this kind of house? (If child does not answer, interviewer may respond, "This is called a Log Cabin." Record an 0 and then proceed with the other questions. These directions apply to the first questions in each sub-test.)

_____

_____2. Who might live in a home like this one? _____

_____3. What is this house made of? _____

_____4. Why do you think people who lived in this house built their homes like this rather than of brick or lumber? _____

_____

"Now let's choose another one."

Wood Stove

_____5. What is the name of this object? _____

_____6. Can you tell me what it was used for? _____

_____7. Who might have used this? _____

_____8. How did this work? _____

Well

____9. What is the name of this object? _____

____10. Can you tell me what it was used for? _____

____11. Can you tell me or show me how people used it? (give credit for correct non-verbal demonstration--applies to all other similar questions) _____

Quilt

____12. Do you know what this is called? _____

____13. Can you tell me something about how it was made? _____

_____

____14. What was it used for? _____

Butter Churn

____15. What is the name of this? _____

____16. What is it used for? _____

____17. Can you tell me or show me how it was used? _____

Bonnet

____18. Can you tell me the name of this piece of clothing? _____

____19. Do you know someone who might have worn this kind of clothing?

_____

____20. How do you think people got their clothes a long time ago?

_____

Scrub Board

____21. What is this object called? _____

____22. What was it used for? _____

____23. Can you tell me or show me how it worked? _____

Home Canned Foods

_____24. What is this? _____

_____25. What do you think has been done to this food? _____

_____

_____26. Why do people do this to food? _____

_____27. Did people do this to food a long time ago? _____

_____28. Why might people have done this more long ago than they do now? _____

Stereoscope

_____29. What is the name of this? _____

_____30. What was it used for? _____

_____31. Can you tell me or show me how to use it? _____

Axe

_____32. What is the name of this? _____

_____33. What was it used for? _____

_____34. Why might people have used this long ago more than they do now? _____

Rifle

_____35. What is the name of this? _____

_____36. Who might have used this? _____

_____37. What was it used for? _____

_____38. Why might people have used this long ago more than they do now? _____

Wagon

_____40. What is the name of this? _____

_____41. What was it used for? _____

_____42. Why might people have used this more long ago than they do now? _____

APPENDIX B

January 5, 1976

To: Panel of Judges
From: Patsy Banta
Re: Evaluation of the HAT, Historical Artifacts Test, to be used as an instrument in my master's research.

I need your help in evaluating the instrument which has been developed for my master's research involving children's concepts of pioneer history. The overall purpose of this study will be to determine the effectiveness of using the aged as resources in teaching historical concepts to young children and in helping them develop an appreciation of their heritage.

INSTRUCTIONS FOR EVALUATION

I. Clarity

Please consider each test item for clearness. Place a check (✓) in the column which you feel best describes the clarity of the question.

II. Appropriateness

Please consider each test item for appropriateness for use with young children (preschool age). Place a check (✓) in the column which you feel best describes the appropriateness of the question.

III. Suggestions for Revision

Please make any comments or suggestions for the test items in this column.

Thank you so much for helping me in the development of this instrument.

NAME _____

JUDGES EVALUATION SHEET--HISTORICAL ARTIFACTS TEST

Please check each test item for both clarity and appropriateness.

#	Clear	Not Clear	Appropriate	Not Appropriate	Suggestions for Revision
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					

#	Clear	Not Clear	Appropriate	Not Appropriate	Suggestions for Revision
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
31.					
32.					
33.					
34.					
35.					
36.					
37.					
38.					
39.					
40.					
41.					
42.					

APPENDIX C

January 5, 1976

To: Panel of Judges for Authenticity
From: Patsy Banta
Re: Evaluation of the historical artifacts for the HAT, Historical Artifacts Test, to be used as an instrument in my master's research.

I need your help in evaluating the artifacts which are to be used with questions to discover children's concepts of pioneer society. The overall purpose of my master's research study will be to determine the effectiveness of using older people as resources in teaching historical concepts to young children and in helping them develop an appreciation of their heritage.

Please rate the twelve artifacts as authentic or not authentic. If you consider the artifact as not authentic, please make suggestions for correction.

Thank you so much for helping me in the development of this instrument.

NAME _____

JUDGES EVALUATION SHEET--AUTHENTICITY OF ARTIFACTS FOR HAT

Artifact	Authentic	Not Authentic	Suggestions for Revision
Log Cabin			
Wood Stove			
Water Well			
Quilt			
Butter Churn			
Bonnet			
Scrub Board			
Home Canned Food			
Stereoscope			
Axe			
Rifle			
Wagon			